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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/701,376

Applicant(s)

KOBAYASHI ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The new grounds of rejection as set forth below are necessitated by applicants' amendment and thus, the following action is final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4-6 and 12-13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection is adequately set forth in paragraph 3 of the office action mailed 9/9/02, Paper No. 7, and is incorporated here by reference.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

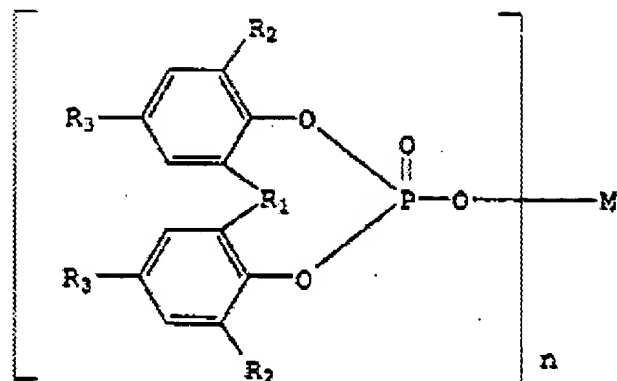
5. Claims 1-3, 7-9, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 699711 in view of Kamakura et al. (U.S. 5,543,454), Shimijo et al. (U.S. 6,011,102), Watanabe (U.S. 4,621,114), and Sumitomo et al. (U.S. 6,201,090).

The rejection is adequately set forth in paragraph 5 of the office action mailed 9/9/02, Paper No. 7, and is incorporated here by reference.

Further, it is noted that with respect to the amendment to claim 1, EP 699711 discloses that the block copolymer comprises 5-25% ethylene-propylene copolymer, i.e. xylene soluble portion and with respect to newly added claims 7 and 14-15, it is noted that EP 699711 discloses that the composition comprises 25-45% propylene-ethylene block copolymer containing 5-25% ethylene-propylene portion as well as 5-15% ethylene-propylene rubber, i.e. additional xylene soluble (page 1, lines 35-50 and page 4, line 12).

6. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 699711 in view of Kamakura et al. (U.S. 5,543,454), Shimijo et al. (U.S. 6,011,102), Watanabe (U.S. 4,621,114), and Sumitomo et al. (U.S. 6,201,090).

EP 699711 disclose a resin composition for automobile parts comprising (i) propylene-ethylene block copolymer wherein the copolymer comprises propylene homopolymer which has stereoregularity index [mmmm] fraction, i.e. isotactic pentad fraction, of 98.5% or greater and 5-25% ethylene-propylene copolymer and (ii) nucleating agent as seen in the formula below:



which is identical to the nucleating agent presently claimed when R_2 and R_3 are each t-butyl, R_1 is methylene, and M is sodium. The nucleating agent is present in an amount of 0.05-0.4 parts per 100 parts polymer present in the composition or in an amount of 0.0005-0.004 parts per part polymer which clearly overlaps the claimed amounts of 0.0003 (300/1,000,000)-0.002(2000/1,000,000) parts nucleating agent per part polymer (page 1, lines 35-53, page 4, lines 6-12 and 22, page 5, lines 14-40, and page 6, lines 1-3).

Although there is no explicit disclosure of xylene insoluble or xylene soluble as presently claimed, it is well known as found in col.2, lines 42-43 and 56-57 of Kamakura et al. that for a propylene-ethylene block copolymer comprising a propylene homopolymer portion and an ethylene-propylene copolymer portion, that the xylene insoluble is the propylene homopolymer portion and the xylene soluble is the ethylene-propylene copolymer portion. EP 699711 discloses that the block copolymer comprises 5-25% ethylene-propylene copolymer, i.e. xylene soluble portion and that the composition comprises 25-45% propylene-ethylene block copolymer containing 5-25% ethylene-propylene portion as well as 5-15% ethylene-propylene rubber, i.e.

additional xylene soluble. Thus, it is clear that EP 699711 disclose xylene insoluble and xylene soluble as presently claimed.

Although there is no explicit disclosure of the flexural modulus, elongation, or Izod impact strength as presently claimed, given that EP 699711 discloses composition identical to that presently claimed, i.e. comprising the same propylene-ethylene block copolymer and nucleating agent, it is clear that such composition would intrinsically possess the same flexural modulus, elongation, or Izod impact strength as presently claimed.

The difference between EP 699711 and the present claimed invention is the requirement in the claims of (a) amount xylene soluble based on the block copolymer, (b) granulation, (c) melt flow rate, and (d) relaxation time of xylene soluble.

With respect to difference (a), it is noted that the present claims require 25.1-28% or 25.7%-28% xylene soluble based on the propylene-ethylene block copolymer, while EP 699711 discloses 5-25% xylene soluble based on the propylene-ethylene block copolymer.

It is apparent, however, that the instantly claimed amount of xylene soluble, i.e. 25.1% or 25.7% and that taught by EP 699711, i.e. 25%, are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the amount of xylene soluble disclosed by EP 699711 and the amount disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the amount of xylene soluble disclosed in the present claims is but an obvious variant of the amounts disclosed in EP 699711, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

With respect to difference (b), while there is no explicit disclosure of granulation, it is noted that page 6, line 6 of EP 699711 discloses that the composition is mixed using an extruder.

Watanabe, which is drawn to propylene composition comprising propylene-ethylene block copolymer, disclose that mixing such a composition in an extruder will result in granulation (col.8, lines 2-3).

In light of the disclosure of Watanabe, it is clear that EP 699711 does in fact disclose granulation as presently claimed, and thus one of ordinary skill in the art would have arrived at the claimed invention.

With respect to difference (c), Shimijo et al., which is drawn to propylene resin composition comprising propylene-ethylene block copolymer, disclose that such a composition has melt flow rate (MFR) of 15-25 g/10 min, wherein if the MFR is too low, a composition having good flowability and moldability cannot be obtained, while if the MFR is too high, a composition having good impact strength cannot be obtained (col.6, lines 4-9).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use composition in EP 699711 which has MFR, including that presently claimed, in order

that the composition have good flowability, moldability, and good impact strength, and thereby arrive at the claimed invention.

With respect to difference (d), while EP 699711 discloses propylene-ethylene block copolymer comprising xylene soluble, there is no disclosure of the relaxation time and thus no disclosure that the relaxation time is a single component or related to the ethylene content as presently claimed.

On the one hand, given that EP 699711 disclose a composition comprising propylene-ethylene block copolymer with same content of xylene soluble as presently claimed, it would have been natural for one of ordinary skill in the art to infer that the xylene soluble of EP 699711 intrinsically possesses single relaxation time component and relationship between relaxation time and ethylene content as presently claimed.

On the other hand, Sumitomo et al., which is drawn to propylene-ethylene block copolymer, disclose that the xylene soluble has a single relaxation time component and a relationship between relaxation time and ethylene content of $y < 0.0014x^3 - 0.0897x^2 - 1.0593x + 231.6$ where y is the relation time in msec and x is the ethylene content in weight % (col.5, lines 1-48).

The motivation for using propylene-ethylene block that possesses xylene soluble with such relaxation time is that the propylene-ethylene block copolymer has good impact strength and also a good balance between rigidity and impact strength (col.5, line 66-col.6, line 12).

In light of the motivation for using propylene-ethylene block copolymer which has xylene soluble possessing single relaxation time component and relationship between relaxation time and ethylene content disclosed by Sumitomo et al. as presently claimed, it therefore would

have been obvious to one of ordinary skill in the art to use such propylene-ethylene block copolymer in EP 699711 in order to produce a composition with good impact strength as well as good balance between rigidity and impact strength, and thereby arrive at the claimed invention.

7. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. '099 (U.S. 5,684,099) in view of Kamakura et al. (U.S. 5,543,454), Shimijo et al. (U.S. 6,011,102), Watanabe '114 (U.S. 4,621,114), and Sumitomo et al. (U.S. 6,201,090).

The rejection is adequately set forth in paragraph 6 of the office action mailed 9/9/02, Paper No. 7, and is incorporated here by reference.

Further, it is noted that respect to the amendment to claim 1 as well as claims 10-11, col.7, lines 1-9 of Watanabe et al. disclose that the propylene- α -olefin copolymer part of the propylene-ethylene block copolymer, which is the xylene soluble portion of the block copolymer, is present in an amount of 3-50%, preferably 10-40%, which clearly overlaps the presently claimed amounts of xylene soluble. Further, with respect to newly added claims 7 as well as newly added claims 12-15, it is noted that given that the composition comprises 70-99.5% block copolymer comprising 3-50% propylene-ethylene block copolymer, it is clear that the amount xylene soluble present in the composition is approximately 2.1-49.75%.

Response to 35 USC 112 rejection

8. Previously, examiner had argued that there was nothing in the present claims or specification as originally filed to support the recitation of "consisting essentially of" transitional language in claim 4. The examiner also noted that all the examples in the present specification

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disclose compositions containing the claimed ingredients as well as neutralizing agent, antioxidant, and aluminum-hydroxide-carbonate-hydrate.

Applicants argue that the inclusion of ingredients such as neutralizing agents and antioxidant would not materially affect the novel and basic characteristics of the present composition such as melt flow rate, flexural modulus, etc.

However, applicants have not addressed the aluminum-hydroxide-carbonate-hydrate. What is the function of this compound? Would it affect the novel and basic characteristics of the present composition? Clarification is requested.

Response to 35 USC 103 rejections

9. Applicants' arguments filed 3/10/03 have been fully considered but they are not persuasive.

Specifically, applicants argue that EP 699711 does not disclose amount of xylene soluble based on propylene-ethylene block copolymer as required in present claims 1-3.

In order to support their position, applicants have calculated the percent xylene soluble in block copolymers BPP1, BPP2, and BPP3 disclosed on page 7, lines 1-45 of EP 699711 and have shown that the amount of xylene soluble for each of these block copolymers is outside the scope of present claims 1-3.

However, while the examiner agrees with applicants' calculations, it is noted the three block copolymers set forth on page 7 of the EP 699711 are just three specific examples of block copolymers disclosed by EP 699711. It is noted that, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference

did not teach others.” *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). A fair reading of the reference as a whole discloses that the xylene soluble portion of the block copolymer, i.e. the propylene-ethylene rubber, is present generally in an amount of 5-25% (page 4, line 12) which encompasses amount, i.e. 22-28%, xylene soluble as presently claimed. Applicants note this disclosure by EP 699711, but argue that the patent teaches that lower amounts are preferred. However, “nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims.” *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960).

With respect to present claims 4 and 7, which require amount of xylene soluble based on the composition, applicants note that in addition to the propylene-ethylene block copolymer, the composition of EP 699711 comprises ethylene-propylene rubber. Based on Table 3 of EP 699711, applicants calculate xylene soluble present in the composition based on the contributions from the polypropylene, propylene-ethylene block copolymer, and ethylene-propylene rubber present in the composition. However, two aspects of this calculation are not understood. First, when calculating the xylene soluble portion of the ethylene propylene rubber, applicants assume that the ethylene propylene rubber contributes all its components other than propylene, which may be as much as 85% by weight, to the xylene soluble. However, when calculating the xylene solubles for the BPP1, BPP2, and BPP3 copolymers disclosed in EP 699711, applicants assumed the entire propylene-ethylene copolymer was soluble in xylene. Thus, would not the entire ethylene propylene rubber be considered xylene soluble so that its xylene soluble content would be 100% of its amount not just 85%. Clarification is requested.

Further, it is noted that the compositions of EP 699711 as set forth in Table 3 also utilize ethylene- α -olefin copolymer. Would this copolymer contribute anything to the amount of xylene soluble present in the composition? Clarification is requested.

Additionally, as set forth above, the compositions in Table 3 are just a few preferred embodiments of EP 699711. A fair reading of the reference as a whole discloses that the block copolymer is present in an amount as high as 40% (page 4, line 51) while the ethylene propylene rubber is present in an amount as high as 15% (page 5, line 1). Thus, for instance, if in example 3, Table 3, the propylene ethylene block copolymer were present in an amount of 40% instead of 27% and the ethylene propylene rubber present in an amount of 15% not 11%, it is calculated that the amount of xylene soluble present would be approximately 24% ($0.24\%+11.4\%+12.75\%$) which falls within the scope of the present claims.

Applicants also argue that there is no motivation to combine EP 699711 with Sumitomo et al. given that Sumitomo et al. disclose that compositions having xylene soluble contents within the presently claimed range provide poor performance. That is, Sumitomo et al. teach away from the present invention.

However, it is noted that comparative examples 11 and 12, pointed to by applicants, appear to provide poor balance of flexural modulus and Izod impact strength not because of the amount of xylene soluble but rather because of the use of different catalyst to form the block copolymer. Col.2, lines 10-12 of Sumitomo et al. disclose that the block copolymer can possess 3-50% xylene soluble. Thus, Sumitomo et al. do not teach against using block copolymer with amount of xylene soluble as presently claimed.

Applicants argue that Watanabe et al. do not disclose composition having xylene soluble concentration with the presently claimed range.

However, it is noted that col.7, lines 1-9 of Watanabe et al. disclose that the propylene- α -olefin copolymer part of the propylene-ethylene block copolymer, which is the xylene soluble portion of the block copolymer, is present in an amount of 3-50%, preferably 10-40%, which clearly overlaps the presently claimed amounts. Given that the composition comprises 70-99.5% block copolymer, it is clear that the amount xylene soluble present in the composition is approximately 2.1-49.75%. Thus, it is the examiner's position, absent evidence to the contrary, that Watanabe et al. meet the limitations of the present claims.

It is noted that page 19 of the present specification provides comparative data wherein composition comprising amount of xylene soluble outside the scope of the present claims are set forth. However, this data does not provide unexpected or surprising results over Watanabe et al. for the following reasons.

While comparative examples 3 and 4 of the present specification comprise amount of xylene soluble of 15.4% and 34.2%, respectively, these composition do not comprise any nucleating agent. Thus, it is not clear if the poor performance of the composition is due to the amount of xylene soluble or the lack of nucleating agent. Further, without use of such nucleating agent, proper side-by-side comparison between composition within the scope of the present claims and composition outside the scope of the present claims cannot be made since all the inventive examples disclose the use of nucleating agent. Finally, the comparative data is not convincing given that the comparative data does not compare composition within the scope of

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the present claims with that of the “closest” prior art, namely Watanabe et al., given that Watanabe et al. always requires the use of nucleating agent.

In light of the above, Watanabe et al. remains relevant reference against the present claims.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
June 24, 2003